



US006395767B2

(12) **United States Patent**  
Robl et al.(10) **Patent No.:** US 6,395,767 B2(45) **Date of Patent:** May 28, 2002(54) **CYCLOPROPYL-FUSED  
PYRROLIDINE-BASED INHIBITORS OF  
DIPEPTIDYL PEPTIDASE IV AND METHOD**(75) Inventors: **Jeffrey A. Robl**, Newtown, PA (US);  
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Princeton, NJ (US)(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.(21) Appl. No.: **09/788,173**(22) Filed: **Feb. 16, 2001****Related U.S. Application Data**(60) Provisional application No. 60/188,555, filed on Mar. 10,  
2000.(51) **Int. Cl.**<sup>7</sup> ..... **C07D 209/07**; A61K 31/403(52) **U.S. Cl.** ..... **514/412**; 548/452(58) **Field of Search** ..... 548/452; 514/412(56) **References Cited****U.S. PATENT DOCUMENTS**

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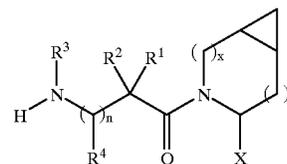
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*Primary Examiner*—Robert Gerstl(74) *Attorney, Agent, or Firm*—Burton Rodney(57) **ABSTRACT**Dipeptidyl peptidase IV (DP 4) inhibiting compounds are  
provided having the formula

where

x is 0 or 1 and y is 0 or 1 (provided that

x=1 when y=0 and x=0 when y=1);

n is 0 or 1; X is H or CN;

and wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are as described herein.A method is also provided for treating diabetes and related  
diseases, especially Type II diabetes, and other diseases as  
set out herein, employing such DP 4 inhibitor \*or a combi-  
nation of such DP 4 inhibitor and one or more of another  
antidiabetic agent such as metformin, glyburide, troglita-  
zone, pioglitazone, rosiglitazone and/or insulin and/or one or  
more of a hypolipidemic agent and/or anti-obesity agent  
and/or other therapeutic agent.**24 Claims, No Drawings**